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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,248	08/24/2001	Dirk Kolowrot	H3381 PCT/US	7954

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EXAMINER

MUSSER, BARBARA J

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 02/26/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/787,248

Applicant(s)

KOLOWROT ET AL.

Examiner

Barbara J. Musser

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 15-20 and 22-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al.(U.S Patent 5,763,333) as evidenced by Iwami et al.(U.S. Publication 2001/00371670A1) and in view of Kehr et al.(U.S. Patent 5,241,014)

Suzuki et al. discloses a sprayable hot melt adhesive with greater than 20wt% amorphous poly-alpha-olefin(APAO), less than 20 wt% oil, and 30-70wt% hydrocarbon resin tackifier.(Col. 7, ll. 27-Col. 8, ll. 10) The adhesive has a melt viscosity of 500-10,000 cp at 180°C.(Col. 1, ll. 65-67) The reference does not disclose the softening temperature of the hydrocarbon but does disclose it can be Clearon(Col. 7, ll. 59; Col. 14, ll. 35) Clearon P105 has a softening temperature of 105°C as evidenced by Iwami et al. which disclose Clearon P105 has a softening temperature of 105°C.[0035]

The reference does not disclose the softening temperature or melt viscosity of the APAO. Kehr et al. discloses an APAO for use in adhesives which has a softening temperature of 70-140°C and a melt viscosity of 1,000-100,000 cp at 190°C.(Abstract) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the APAO of Kehr et al. in the adhesive composition of Suzuki et al.

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since Suzuki et al. discloses any APAO can be used and since Kehr et al. discloses that the APAOs of the reference have improved sprayability over other APAOs.(Col. 2, ll. 41-42)

Regarding claims 16, 20, 28, 31, and 35, the APAO can have a weight average molecular weight of 60,000.(Table 4) and the ratio of weight average molecular weight to number average molecular weight is 6 or less.(Abstract)

Regarding claim 17, as the viscosity of the adhesive can be 500 cp at 180°C, one in the art would appreciate that it would be less than 1,900 cp at 150°C since the viscosity does not tend to rise appreciably with temperature until the components near their softening temperatures.

Regarding claim 18, the APAO contains 3-75wt% alpha olefin with C4-C10 elements.(Col. 1, ll. 66-67)

Regarding claim 19, APAO can have a viscosity of 1,000-100,000 cp at 190°C.(Col. 1, ll. 13-14)

Regarding claim 20, the APAO has a density less than 0.9 g/cm³ and a needle penetration of 5-50 0.1 mm.(Abstract)

Regarding claim 22, using medicinal white oils as the plasticizer is well-known and conventional in the adhesive arts. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any well-known and conventional oil such as medicinal white oil as the plasticizer since such oils are well-known and conventional in the adhesive arts.

Regarding claim 23, the hydrocarbon can be a C9 based petroleum.(Col. 7, ll. 55)

Regarding claim 24, pigments and stabilizers are well-known and conventional additives to adhesives. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add any well-known and conventional additives such as stabilizers or pigments to the adhesive since such additives are well-known and conventional in the adhesive arts.

Regarding claim 26, since the materials used are the same as applicant in the same proportions as applicant, the viscosity of the adhesive at 100°C would be in the same range as applicant's.

Regarding claims 27, 29, 30, and 33, the adhesive is used to bond together a nonwoven and a polyethylene film.(Col. 6, ll. 35-61) The composite can be used in a diaper.(Col. 1, ll. 8) The adhesive is applied at a weight of 0.5-7 g/m².(Col. 3, ll. 14-19) The coating temperature can be 170°C.(Col. 12, ll., 66-67)

Regarding claim 32, the adhesive can be applied at a rate of 200 m/min.(Table 3) While the only coating temperature listed is 170, one in the art would appreciate that the adhesive could be applied at any temperature where the materials are liquid and capable of being sprayed. Absent unexpected results, the coating temperature is considered obvious.

Regarding claim 34, the adhesive is formed by mixing under a nitrogen atmosphere at a temperature of 185°C.(Kehr et al., Col. 4, ll. 24-30)

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3. Claims 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. as evidenced by Iwami et al. and in view of Simmons et al. (WO 97/33921).

Suzuki et al. discloses a sprayable hot melt adhesive with greater than 20wt% amorphous poly-alpha-olefin (APAO), less than 20 wt% oil, and 30-70wt% hydrocarbon resin tackifier. (Col. 7, ll. 27-Col. 8, ll. 10) The adhesive has a melt viscosity of 500-10,000 cp at 180°C. (Col. 1, ll. 65-67) The reference does not disclose the softening temperature of the hydrocarbon but does disclose it can be Clearon (Col. 7, ll. 59; Col. 14, ll. 35) Clearon P105 has a softening temperature of 105°C as evidenced by Iwami et al. which disclose Clearon P105 has a softening temperature of 105°C. [0035]

The reference does not disclose the softening temperature or melt viscosity of the APAO. Simmons et al. discloses an APAO which can be used in hot melt adhesives which is comprised of two components- a first APAO with a molecular weight less than 20,000 and a second APAO with a molecular weight less than 6,000. (Pg. 5, ll. 18-Pg. 6, ll. 6) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the APAO of Simmons et al. in the adhesive of Suzuki et al. since the APAO has a balance of properties superior to those known previously. (Pg. 4, ll. 17-19) While the reference does not disclose the specific melt viscosities, viscosity is dependent on molecular weight and thus these APAOs would have viscosities within the claimed ranges.

4. Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindquist et al. in view of Alper et al. as set forth in the previous office action.

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5. Claims 15, 24, 25, 27, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foster et al.(U.S. Patent 5021,257).

Foster et al. discloses a sprayable hot melt adhesive with 30-70wt% APAO having a viscosity of 2,000-20,000 cp at 190°C, 20-50wt% hydrocarbon with a softening temperature of 70-145°C, and 0-30wt% oil.(Col. 2, ll. 20-48) The adhesive has a viscosity of 3,000-25,000 cp at 135°C(Col. 2, ll. 1) and thus would have an even lower viscosity at 150°C. The reference does not disclose the softening temperature of the APAO. However, the softening temperature of the adhesive is 90-125°C.(Col. 2, ll. 1-3) Since the adhesive has a softening temperature of 90-125°C and the hydrocarbon has a softening temperature in the same range, one in the art would appreciate that the APAO would have a softening temperature in the same range as otherwise the mixture would not end up with a softening temperature of 90-125°C.

Regarding claim 24, the reference discloses the adhesive can contain pigments and nucleating agents.(Col. 6, ll. 50-54)

Regarding claims 27 and 29, the adhesive can be used on a diaper.(Col. 6, ll. 60)

Response to Arguments

6. Applicant's arguments filed 12/11/02 have been fully considered but they are not persuasive.

Regarding applicant's argument that all the claims now require 35-50wt% APAO, claim 34 does not.

Regarding applicant's argument that Lindquist is directed to an adhesive with a low cohesive strength, applicant does not claim cohesive strength.

7. Applicant's arguments with respect to claims 15-33 have been considered but are moot in view of the new ground(s) of rejection.

Suzuki et al. discloses APAO can be greater than 20wt% of the adhesive. This encompasses applicant's range of 35-50wt%.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Barbara J. Musser** whose telephone number is **(703)-**


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305-1352. The examiner can normally be reached on Monday-Thursday; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


BJM
February 23, 2003


Michael W. Ball
Supervisory Patent Examiner
Technology Center 1700